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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/796,752	02/06/1997	KOJI ARAI	614.1804/HJS	9335

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EXAMINER

NGUYEN, PHUONGCHAU BA

ART UNIT PAPER NUMBER

2665

DATE MAILED: 05/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

08/796,752

Applicant(s)

ARAI, KOJI

Examiner

Phuongchau Ba Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on RCE 10-22-2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 3-5, 8, 9, 11, 12, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5, 8, 9, 11 and 12 is/are allowed.
- 6) ☒ Claim(s) 22-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “extracting a time-continuous signal for the terminal from input signal; time-divisionally dividing the time-continuous signal into a first N signals; converting the first N signals into second N signals having a transmission-rate lower than that of the first N signals; providing a second N signal separately to a plurality of base stations; and converting each of the second N signals into a plurality of radio signals and transmitting each of the plurality of radio signals from an antenna of each of base stations to the terminal”(claims 22 and 23) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 20-21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The new matter is that “extracting a time-continuous signal for the terminal from input signal; time-divisionally dividing the time-continuous signal into a first N signals; converting the first N signals

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into second N signals having a transmission-rate lower than that of the first N signals; providing a second N signal separately to a plurality of base stations; and converting each of the second N signals into a plurality of radio signals and transmitting each of the plurality of radio signals from an antenna of each of base stations to the terminal"(claims 22-23). Applicant is directed to the original disclosure, page 11, lines 23-28 describing figure 3 wherein signal A is an input signal, signals B are the divided signals (from signal A) which destined to different base stations, and signals C are the output signals after rate converted {page 12, line 27 to page 13, line 9}. No where found the time-continuous signal A1 is extracted, and the extracted signal A is later being divided into a plurality of signals AA, and then the extracted-divided signals AA are rate converted to a lower rate and being transmitted to a plurality of base station which transmit to terminal unit A.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Alexis [4,385,381].

The admitted prior art discloses in figure 1 a plurality of base stations [1-n] connecting to an ATM hub, which is connected to wiring LAN system. These base

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stations simultaneously transmit data received (input signal) from ATM hub to a terminal station in different frequencies  $[f_1-f_n]$  {thus the input signal (100 Mbps) is divided (in time) to a plurality of signals to transmit to a plurality of base stations; fig. 1---emphasis added; time-divisionally dividing the input signal (100 Mbps, in time) is inherent in figure 1 wherein the input signal is being divided and transmitted to a plurality of base stations, without being divided the input signal cannot be transmitted to a plurality of base stations simultaneously; page 2, lines 5-8}.

-The admitted prior art does not explicitly disclose extracting a time-continuous signal for the terminal from the input signal. The admitted prior art discloses that the input signal is transmitted by a plurality of base stations to a terminal station (RX1-RXn; processor, terminal unit; fig. 1). Thus, the extracted time-continuous signal reads on the divided signal from the input signal from the wiring LAN system that is destined to a terminal station. Also, the input signal (the extracted time-continuous signal) is divided into a plurality of signals (first N signals) to transmit via base stations to the terminal station (fig. 1).

-The admitted prior art does not explicitly disclose converting the first N signals into second N signals wherein a rate of the second N signals is lower than of the first N signals.

Alexis discloses in figure 1 a serial to parallel converter 14 (as claimed time-divisionally dividing unit) for time-divisionally dividing an input signal at rate 2.048 Mbps into first 512 signals (as claimed first N signals) at 4 kbps {see col. 3, lines 45-59}.

Although Alexis does not disclose another serial to parallel converter (as claimed

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converting unit) for converting the first N signals at 4 kbps into a lower rate second N signals. But it would have been obvious to a skilled artisan to add a duplicated serial to parallel converter 14 for a multiple effect {St.regis Paper Co. v. Bemis Co., Inc., 193 USPQ 8 (7<sup>th</sup> Cir. 1977)}.

Therefore, it would have been obvious to a skilled artisan to implement the plurality of serial to parallel converters 14 as disclosed by Alexis into the line between the base stations [1-n] and the ATM hub of the admitted prior art. The motivation is to improve the transmission rate by transmitting data at a low bit rate between the base station and the ISDN system [i.e., ATM] for avoiding interference, fading and improving signal quality in reception as explicitly suggested by Alexis in column 1 lines 32-59.

#### ***Allowable Subject Matter***

5. Claims 3-5, 8-9, 11-12 are allowable over prior art of the record.

#### ***Response to Arguments***

6. Applicant's arguments filed 3-8-2002 have been fully considered but they are not persuasive.

*AI.* Applicant argued that the admitted prior art does not disclose time-divisionally dividing an input signal into first N signal and converting the first N signals into second N signals, wherein a rate of the second N signals is lower than that of the first N signals.

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First, the admitted prior art discloses in figure 1 a plurality of base stations [1-n] connecting to an ATM hub, which is connected to wiring LAN system for transmitting simultaneously the input signal from the wiring LAN system to a terminal station in different frequencies [f1-fn]. Thus the input signal is divided into a plurality of first N signal. The input signal is at rate 100 Mbps, thus the input signal is in time domain (100 mega bit per second). Therefore, the input signal, when being divided into a plurality of signals, is time-divisionally divided into a plurality of first N signals that sent to a plurality of base stations, because without being divided the input signal cannot transmitted to a plurality of base stations simultaneously; page 2, lines 5-8}.

Second, Alexis discloses the rate conversion which is combined to the admitted prior art. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

B/. Applicant argued that extracting a time-continuous signal for the terminal from an input signal and time-divisionally the time-continuous signal into first N signals. And the admitted prior art is a technique to obtain a diversity effect by sending the same data from a plurality of base stations.

n reply, applicant is directed to rejection 112, first paragraph wherein the extracting function is not found anywhere in the original disclosure. Thus, applicant's

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argument is irrelevant. Also, because according to figure 3 of the original disclosure, the signal A (which comprises A1, B1, C1) is divided into a plurality of signals B (which comprises A1-1, B1-1, C1-1; A1-2, B1-2, C1-2; and A1-3, B1-3, C1-3). Thus, there is no difference between the admitted prior art of sending the same data from a plurality of base stations and the claimed feature as shown in figure 3 of the original disclosure. The same signal A is splitted (divided) into plurality signals, which are being transmitted to a terminal station via a plurality of base stations (fig.1). Also, the extracted time-continuous signal read on the splitted signal, which is divided, and being transmitted from a plurality of base stations to a terminal station.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is 703-305-0093. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 3:00 p.m..

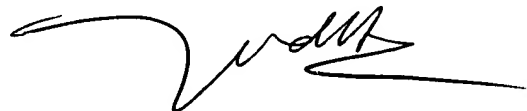
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 703-308-6602. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.



Phuongchau Ba Nguyen  
Examiner  
Art Unit 2665

May 13, 2002



HUY D. VU  
PRIMARY EXAMINER